

**THE IMPACT OF FUNDING MODELS ON COMPLETION OF ROAD  
PROJECTS IN TANZANIA: A CASE STUDY OF DAR ES SALAAM**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT  
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## **CERTIFICATION**

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation titled: **“The Impact of the Funding Models on Completion of Road Projects in Tanzania: A Case Study of Dar es Salaam”** in partial fulfillment of the requirements for the Degree of Master of Project Management of The Open University of Tanzania.

.....

Dr. Salvo Macha

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.....

Date

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## DECLARATION

I, **Majura Phinias Mlinga** do hereby declare that, this research report is my original work and that it has not been presented to any other University or any other Higher Learning Institution for a similar or any degree award.

.....

Signature

.....

Date

## DEDICATION

I would like to dedicate this thesis to my beloved wife, *Janet John* and daughter *Irene Majura* who did more than her share around the house, whose love and encourages prays every day made able to get such success and honor.

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## **ABSTRACT**

This study aimed at assessing the impact of financing models on the completion of road projects in Tanzania; a case of Dar es Salaam. Specifically to describe the key sources of funding of road infrastructure, to identify the funding models for financing road infrastructure development projects, to determine the strategies to overcome the challenges facing road project funds. To achieve these objectives and answer research question related to them, a case study design was used with questionnaire and interview as a technique for data collection. A sample size of 75 respondents who were TANROADs officers, MOI officers as well as roads project managers and road users were used. Data were analyzed by using special program known as SPSS. The major findings of the study are that; the main source of road infrastructure development in Tanzania comes from donor funds. The study also revealed that supervision of donor funds, high price of construction materials as well as extreme weather and inadequate feasibility studies are the main causes for the delays of most road projects in Tanzania. It is recommended that the government should allocate enough fund for the completion of various roads construction projects which are suspended due to various reasons. The Government should therefore look for other sources to increase its revenue base. When government revenue increases, there would be more revenue available to finance government expenditure including road infrastructure funding. The government to enact strictly laws on handling road construction projects. The government can do by ensuring that those who engage in such practices are given punishments that are severe enough to deter others from engaging in similar practices.

## TABLE OF CONTENT

<b>CERTIFICATION .....</b>	<b>ii</b>
<b>COPYRIGHT .....</b>	<b>iii</b>
<b>DECLARATION.....</b>	<b>iv</b>
<b>DEDICATION.....</b>	<b>v</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>vi</b>
<b>ABSTRACT.....</b>	<b>vii</b>
<b>LIST OF TABLES .....</b>	<b>xii</b>
<b>FIGURE .....</b>	<b>xiii</b>
<b>LIST OF APPENDICES .....</b>	<b>xiv</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>xv</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study .....	1
1.2 Statement of Problem .....	3
1.3 Research Objectives .....	4
1.3.1 General Objective.....	4
1.3.2 Specific Objective of the Study.....	4
1.4 Research Questions .....	5
1.5 Significance of the Study .....	5
1.6 Scope of the Study.....	6
1.7 Limitations and De limitations of the Study .....	6
1.8 Organization of the Study .....	7



<b>CHAPTER TWO .....</b>	<b>8</b>
<b>LITERATURE REVIEW.....</b>	<b>8</b>
2.1 Theoretical Reflections .....	8
2.1.1 Financing Strategies .....	8
2.1.2 Successful of the Projects.....	8
2.1.3 Assessing Economics Importance of Roads in Tanzania.....	9
2.1.4 Roads Financing Strategies in Tanzania .....	10
2.1.5 Road Investment Models.....	11
2.1.6 Net Present Value Method .....	12
2.2 Costs-Benefit Analysis Model .....	12
2.3 Empirical Literature Review .....	13
2.4 Conceptual Framework .....	18
<b>CHAPTER THREE .....</b>	<b>21</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>21</b>
3.1 Research Design .....	21
3.2 Area of the Study.....	21
3.4 Population of the Study Area .....	22
3.5 Sampling Procedures.....	23
3.5.1 Simple Random Sampling.....	23
3.5.2 Purposive Sampling.....	23
3.6 Sample Size .....	24
3.7 Methods of Data Collection .....	24
3.8 Data Collection Instruments.....	25
3.8.1 Questionnaires .....	25

3.8.2	Interviews .....	26
3.9	Methods of Data Analysis .....	26
3.9.1	Qualitative Data Analysis.....	26
3.9.2	Quantitative Data Analysis.....	27
3.10	Data Validity and Reliability.....	27
<b>CHAPTER FOUR.....</b>		<b>29</b>
<b>PRESENTATION AND DISCUSSION OF FINDINGS .....</b>		<b>29</b>
4.1	Demographic and Social Characteristics of Respondents.....	29
4.1.1	Sex of Respondents .....	29
4.1.2	Age of Respondents .....	29
4.1.3	Level of Education of Respondents .....	30
4.2	The Key Sources of Funding of Road Infrastructure .....	32
4.2.1	Understanding about Road Project.....	32
4.2.2	Sources to Financing of Road Infrastructure.....	32
4.2.3	Adequacy of Road Financing .....	33
4.2.4	Main Source of Road Infrastructure Development in Tanzania.....	33
4.2.6	Major Causes for the Delays of Most Road Projects in Tanzania .....	34
4.3	To identify the Funding Models for Financing Road Infrastructure Development Projects .....	34
4.3.1	The Utilization of Funds for the Targeted Project .....	35
4.3.2	Public Leaders Ensure that Development Project Reflect Value for Money .	35
4.3.3	Local Citizens are allowed to Question and be answered on Issues Patterning Civilian Project .....	36
4.4	To Determine the Strategies to Overcome the Challenges Facing	

Road Project Funds .....	37
4.4.1 Best Methods for Financing Road Projects .....	37
4.4.2 Suggestions for Improvement in Funds to Road Infrastructure .....	38
4.5 Discussion of Findings .....	39
4.5.1 The Key Sources of Funding of Road Infrastructure .....	39
4.5.2 The Funding Models for Road Infrastructure .....	42
4.5.3 Strategies to Overcome Road Infrastructure Challenges .....	43
<b>CHAPTER FIVE.....</b>	<b>45</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS.....</b>	<b>45</b>
5.1 Summary of Findings .....	45
5.2 Conclusion.....	46
5.3 Recommendations .....	47
5.4 Suggestions for Further Study .....	48
<b>REFERENCES.....</b>	<b>49</b>
<b>APPENDICES .....</b>	<b>54</b>

## LIST OF TABLES

Table 2.1: Source of Government Fund for 2003/2004) on Roads .....	10
Table 3.1: Summary of the Sample Size .....	24
Table 4.1: Distribution of Respondents by Sex.....	29
Table 4.2: Distribution of Respondents by Age Group.....	30
Table 4.3: Level of Education of Respondents .....	30
Table 4.4: Distribution of Respondents by Working Experience.....	31
Table 4.5: The Understanding about Road Project .....	32
Table 4.6: Sources to Financing of Road Infrastructure.....	33
Table 4.7: Adequacy of Road Financing.....	33
Table 4.8: Main Source of Road Infrastructure Development in Tanzania .....	34
Table 4.9: Major Causes for the Delays of Most Road Projects in Tanzania .....	34
Table 4.10: The Utilization of Funds for the Targeted Project.....	35
Table 4.11: Public Leaders Ensure that Development Project Reflect Value for Money.....	36
Table 4.12: Local Citizens are allowed to Question and be answered on Issues Patterning Civilian Project .....	37
Table 4.13: Best Methods for Financing Road Projects .....	38
Table 4.14: Suggestions for Improvement in Funds to Road Infrastructure.....	38

# FIGURE

Figure 2.1: Road Related Projects Financed by other Development Partners in	
Tanzania .....	18

## **LIST OF APPENDICES**

Appendix 1: Study Questionnaire .....	54
Appendix 2: Interview Guide.....	58
Appendix 3: Road Related Projects Financed by other Development Partners in Tanzania.....	59

**LIST OF ABBREVIATIONS**

ARR	Accounting Rate of Return
BADEA	Arab Bank for Development Economic in Africa
CBA	Cost Benefit Analysis
GDP	Gross Domestic Product
IRR	Internal Rate of Return
JICA	The Japan International Cooperation Agency
KIA	Kilimanjaro International Airport
MoI	Ministry of Infrastructure
NVP	Net Present Value
OPEC	Organization of the Petroleum Exporting Countries
PB	Payback Method
TANROAD	Tanzania Roads Agency
TRA	Tanzania Revenue Authority
US\$	United States Dollar

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Road transport continues to play an indispensable role in the movement of passengers and freight. This is a necessary requirement for poverty alleviation and socio-economic development in developing countries. Despite the importance of roads in overall economic development, efficiency of road transport systems in many developing countries are often constrained by high vehicle operation and maintenance costs due to poor road conditions. While demands for transport infrastructure continue to grow - a result of high population growth rates, urbanization and growth in economic activities - resources for road maintenance and road network replacement continue to be a burden for many developing countries (UTR, 2013).

In order for the road sub-Sector to be able to support economic development in Sub-Saharan Africa, a number of countries in the region have embarked on reforms over the last two or so decades. The reforms were a result of sustained discussions with Development Partners. The reforms were meant to address the large backlogs of deferred maintenance, an acute shortage of funds and ineffective institutional arrangements for the management of the subsector. The main thrust of the reforms have been aimed at managing roads more like a business and bringing roads into the market place by charging for road use on a fee-for service basis (DFID, 2013).

The road financing in Tanzania is basically can be grouped into two categories, the first category are those projects that are solely funded 100% by the Government of



Tanzania of Development partners in terms of Grants or Loans. The government of Tanzania is using fund from Road fund board or consolidated fund form the ministry of Finance in financing these large projects. The second category is those roads projects that are funded jointly, the Government of Tanzania and Development partners. The development partners funding road projects in Tanzania are World Bank, African Development Bank, European unions, OPEC, JICA, BADEA, JAPAN, NORWAY, KUWAIT, DERNMARK and SAUD. In this cast the project will be either funded through multilateral or Bilateral Agencies (TANROAD, 2011).

Although there is good progress in the road sector now days there is a need analyzing the influences of financing strategy in relation to successfulness of road projects in terms of costs, completeness and the defect liability period. A construction is considered to be successful when it applies the triangle's constraints, time, cost and quality. The financing strategy can positively or negatively affects the road projects success. The constructions cost may be high due to either delay in fund disbursements which attract interest on delay payments. Longer completion period than expected noncompliance of activities during the defect liability period or the appearance of so many snag list of works which need to be attended by the contractor (Angleoha, 2003).

According to Hamilton (1996) one of the most important challenges facing road planners in Africa is how to mobilize sufficient funds to build, improve, and maintain a network of high capacity freeways to serve the needs of the region's rapidly growing road transport industry. Given the acute shortage of government revenue, many governments are increasingly turning to the private sector for assistance. Why

not let the private sector come in to build and operate these roads under concession agreements? In looking for other sources of finance the government may consider the possibility of inviting the private sector to partner the government in road infrastructure development. Sustainable road financing requires an awareness of both the expected network life cycle costs on the one hand and available domestic funds on the other hand. The sustainability of any road-financing plan is therefore measured by the extent to which these domestic funds cover the expected life-cycle costs of the road network.

For those projects solely funded by the Government of Tanzania, mostly these funds are affected by times release of funds, as results of the Government budget not to have enough funds (Zietlow and Bull 2001). There is therefore the need to look at the influence of financial strategy of the road on the successful of the road projects. Taking the case of different Dar es Salaam roads which are ongoing process.

## **1.2 Statement of Problem**

Road infrastructure is any country's single most expensive asset. For example the replacement cost of only the National Roads in Tanzania mainland is estimated at around TShs.2.6 trillion (TANROAD, 2011), this leads to higher vehicle operating costs. There is also reduced reliability of road transport services. The result is that transport costs become high and suppress socio-economic development.

Despite these huge investments in road infrastructure development in the country, the successfulness of the road projects remain of main questionable to most of the stockholders as it depend on the financing strategy used. Nevertheless, maintenance

has not always received the attention it deserves. This is evidenced by the delay of some of the projects financed by the governments, such as from KIA to Melerani which were supposed to be finished by 2014, but till now it 0% completed, also roads from Uyoyu to Buzwanga Mwanza which for two years it had been completed at only 6% (National Audit Office, 2004).

This means that the financing strategies of road has great impacts on the successful of the roads as most of the roads by governments fail to be completed within the given timeframe while those roads by other partners most of them being done within specified period of time. So it is the aim of this paper to investigate the impact of funding models on completion of the road projects in Tanzania.

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The main objective of this research is to evaluate the impact of funding models on completion of the road projects in Tanzania.

#### **1.3.2 Specific Objective of the Study**

Specifically the study is founded from the following five objectives,

- (i) To describe the key sources of funding of road infrastructure
- (ii) To identify the funding models for financing Road infrastructure development projects.
- (iii) To determine the strategies to overcome the challenges facing road project funds.

#### **1.4 Research Questions**

This study is guided by the following research questions.

- (i) What are the key sources of funding of road infrastructure?
- (ii) What are the funding models for financing Road infrastructure development projects?
- (iii) What strategies are adopted to overcome the challenges facing road project funds?

#### **1.5 Significance of the Study**

The finding of this study is significant to policy makers', road users, road projects managers and academicians. The outcomes of the present study would be of great attention to the road projects manager as they search for ways to increase their efficiency and reduce the poor performances. Observing and documenting the factors, which affect their work would be useful to them and help in their performances. Knowledge of such information would facilitate a better method of manpower planning by the management and can be given to them for integration of their works into their performance.

The findings from this study enable users of the roads to acquire information that is appropriate and which would give them confidence and capability of identifying how roads are being managed and would make them use them carefully. The findings of this research would also contribute the knowledge to society and academicians. It would serve as a secondary data for anyone who would be interested to carry out research on road financing strategy in developing countries. Lastly this study would

be as part of the course fulfillment for the required Degree of Masters of Project Management of The Open University of Tanzania.

### **1.6 Scope of the Study**

This study was confined to road projects based in Dar es Salaam in mainland Tanzania. Selection of study areas was based on going road projects in Dar es Salaam, which shows that many road projects are located in Dar es Salaam. In addition, there are many projects including in Dar es Salaam region. The study covered Road projects managers, TANROADS officials, Ministries and the citizen living near the roads since they are much aware on the defeat liability of the road and usage of the roads.

### **1.7 Limitations and De limitations of the Study**

In carrying out the study number of limitations is expected to be encountered, and some of the limitations and de-limitations are discussed below:

The budget constraint was expected to be one of the limitations in carrying out this research study. The availability of enough resources especially financial ability was expected to be one of the hindering factors. This made a researcher to conduct the study within the specified region only. Personal and family support would used to make sure enough and adequate fund is acquired.

Time also was one of the limits in doing in-depth study work. The research needed a enough of time in order to get the enough information from different respondents. So in order to ensure time limitation is avoided the researcher had arranged the times schedule for each activity conducted.

## **1.8 Organization of the Study**

The study was organized along five chapters. Chapter one has presented introduction of the study, background to the study, the research problem, the research objectives and the research questions. Additionally, the significance of the study and a highlight on the scope and limitation to the study together with this section on the organization of the study has been presented. Chapter two presents the literature that discusses issues pertaining to consumer buying behavior. Towards the end of the chapter, conceptual framework research gap was identified.

The methodology was discussed in chapter three whereby research design, population of the study, sample size sampling techniques, data collection methods and techniques and data analysis was discussed.

Chapter four of the study was later presents the study findings and analysis based on the data collected while the research summary, conclusions, recommendations and implications are going to be presented in last chapter, chapter five of the study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Theoretical Reflections**

##### **2.1.1 Financing Strategies**

Ado (2009) stated that, a financial strategy is a written down plan or guideline that deals with key elements in raising funds, managing organization funds and the implementation of the organization objectives within the limited financial capabilities. Financial strategies are very important for the survival of any institution, because without good financial strategies, organizations will run bankrupt and can be closed down.

According to OSHA (2009) Construction Industry entails a variety of activities that is a process that entails the building or assembling of infrastructure. Construction is a result of human multitasking between professionals such as project managers, construction managers, design engineers, construction engineers, architects and others. Construction industry is responsible for the homes we live in, the buildings in the cities, bridges and roads.

##### **2.1.2 Successful of the Projects**

Successfully can be defined in many ways. Hatray (2006) defines successfully as the “regular measurement of the results (outcomes) and efficiency of the service or program.” But Adams (2002) defines successfully as “the process of quantifying the completeness of the projects in terms of cost and times.

According to Bourguignon, (1995) successfully means the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. In a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract. On measuring the successfulness of any construction project, three important factors are taken on board, namely, cost, time and quality as the foundation of successfulness measurement systems (*ibid*).

### **2.1.3 Assessing Economics Importance of Roads in Tanzania**

The public road network has been identified as the largest public infrastructure asset (Heggie and Vickers, 1998). Estimation of road asset values and costing out the implications of deferred Maintenance to the economy and the road user have given a strong impetus to maintenance Prioritization. For Tanzania this may be a particularly important consideration as they generally carry higher road asset values per GDP than average and thus the costs to road users of a degraded network are very high and constrain national economic development potential.

The predominance of road transport as the means of passenger and freight movements -averaging 80% and 60% respectively on a world scale and generally higher even than this in Tanzania further underlines the economic importance of roads. Rates of growth in the road network have accelerated, particularly in the transition and developing countries, as these have sought to respond to demand – expansion has been particularly fast in most of developing countries, with Tanzania somewhat lagging. The investment implications are significant.



Fay and Yepes (2003) estimate that needed yearly infrastructure expenditure in developing countries is around US\$233 billion with a similar amount required for maintenance, approximating to about 5.5% of GDP in total. Roads are projected – on average – to require about 19% of all infrastructure investment needs, or up to 1% of GDP to which allow for current. Maintenance has to be added. For Sub Sahara Africa the numbers will be generally higher in view of past underinvestment and the accumulation of arrears on maintenance. For example, recent World Bank reports cite annual road sector expenditure as a percentage of GDP amounting to 2.2-2.5% in Malawi (World Bank, 2001) and to 1.9% in Zambia (World Bank, 1997).

#### **2.1.4 Roads Financing Strategies in Tanzania**

The Government is the main financier of road infrastructure development in Tanzania. This financing comes from three main sources; the Consolidated Fund, the Tanzania Road Fund and Donor Funds. The main the sources of funding for the Roads Fund are: fuel levies, transit charges, overloading fees and heavy vehicle license fees. The first two sources are collected by the Tanzania Revenue Authority, the third by TANROADS and the last by the Central Transport Licensing Authority. Collections for the financial year 2003-2004 are shown in Table 2.1.

**Table 2.1: Source of Government Fund for 2003/2004) on Roads**

<b>Source of Roads Funds</b>	<b>Amount (Tsh)</b>	<b>Percentage of Total</b>
Fuel levy	64,113,252,331	95.2
Transit charges <sup>a</sup>	1,406,335,567	2.1
Overloading fees	1,734,434,164	2.4
Heavy Vehicle licences fees <sup>b</sup>	188,239,500	0.3
<b>Total</b>	<b>67,342,261,562</b>	<b>100.0</b>

Source: Field Data (2015)

According to the Ministry of Transportation of Tanzania, Road Sector Development Project, 2007 Review Report, a total of US\$1,561.10 million was disbursed to the road sub-sector from the different sources of funding between 2002 and 2007. The average annual disbursement is about US\$260 million. The following table show road related projects financed by other development partners in Tanzania (URT, 2007).

Despite these huge investments in road infrastructure development in the country, several road constructions projects are lagging as compared with the rate at which settlements are expanding. This is evidenced by the presence of bad roads in both the urban and rural areas of the country. According to Hamilton (1996) one of the most important challenges facing road planners in Africa is successful completion of the road projects financed by difference sources. According to this study each source has its own advantage and disadvantage.

#### **2.1.5 Road Investment Models**

The primary function of road investment model is to calculate the costs of road construction, road maintenance and road user costs for a specified period. A road investment model may be used to assist with the selection of appropriate road financing design and maintenance standards which minimize the total cost. When planning investments in road sector, it is necessary to evaluate all costs and benefit of the proposed project. Some of the commonly used methods for evaluating successfulness of investments in road infrastructure development are the Net Present Value Method (NPV), Internal Rate of Return (IRR), Accounting Rate of Return (ARR) and the Payback Method (PB).

### **2.1.6 Net Present Value (NPV) Method**

According to Francis (1992), the discounted cash flow technique of investment appraisal involves calculating the sum of the present values of all cash flows associated with a project. The sum is known as the Net Present Value of the project. The Net Present Value (NPV) is the difference between the discounted benefits and costs of a project (Francis 1992). Berkley& Myers cited by Amado (2000) define NPV as a project's net contribution to wealth and that is, present values minus initial investment.

It is the method of evaluating project that recognizes that the dollar received immediately is preferable to a dollar received at some future date. It discounts the cash flow to take into account the time value of money. In case the present value is positive, the project will be accepted; if negative, it should be rejected. If the projects under consideration are mutually exclusive the one with the highest net present value should be chosen and in neither case was this regarded to sufficient to meet all needs. The main weakness of this model is that it does not provide the impacts of financing strategies on the completeness of the projects. It's just taking into consideration the time for projects completeness the cost of the projects and its return. So this provides a chance for further study on the impacts of the financial on the successfulness of the road projects.

## **2.2 Costs-Benefit Analysis Model (CBA)**

Cost-benefit analysis refers to a process which involves, whether explicitly or implicitly, weighing the total expected costs against the total expected benefits of one or more actions in order to choose the best or most profitable option. A hallmark of

CBA is that all benefits and all costs are expressed in money terms, and are adjusted for the time value of money (Amado, 2000). Cost Benefit Analysis is typically used by governments to evaluate the desirability of a given intervention. The guiding principle is to list all of the parties affected by an intervention, and place a monetary value of the effect it has on their welfare as it would be valued by them.

During cost benefit analysis, monetary values may also be assigned to less tangible effects such as the various risks which could contribute to partial or total project failure: loss of reputation, market penetration, long-term enterprise strategy alignments etc. The cost benefit principle says, for example, that we should install a guardrail on a dangerous stretch of mountain road if the dollar cost of doing so is less than the implicit dollar value of the injuries, deaths, and property damage thus prevented (Frank 2000).

Cost-Benefit Analysis is mainly, but not exclusively, used to assess the value of money for very large private and public sector projects. This is because such projects tend to include costs and benefits that are less amenable to being expressed in financial or monetary terms (e.g. environmental damage), as well as those that can be expressed in monetary terms.

### **2.3 Empirical Literature Review**

Hamzah (2010) in the study Project schedule influenced by financial issues: Evidence in construction industry using Questionnaire survey and a follow up interview survey Construction delays could be reduced by identifying the root causes of financial related problems. It generally agrees that clients should bear the greatest

responsibility and play the most important role in lessening the impact of financial related construction delays. Mitigating measures are: structure the market, not to over develop, to conduct training on cash flow management, to access risk management, to be smart in accepting the contract, to choose a good paymaster, and to apply payment bond with bank and client were suggested to clients and contractors, respectively. It recommends that more intensive researches emphasizing on how clients and main contractors may achieve a well-managed cash flow in obtaining a prompt payment should be conducted in future.

Hawkins and Mann (2007) in the study 'The World Bank's role in tourism development' reviewed the World Bank's experience in supporting tourism projects from the mid-sixties and they find that report that "projects that continued to be implemented during the 80s performed poorly", that project overruns were costly both to the World Bank and the beneficiary countries and that the "bank's loss of focus resulted in poor supervision that ultimately affected the outcomes of these projects" (2007). However as it can be seen all these researches were conducted many years ago and due to technological advancement and changes as well as the dynamism nature of the environment, it is important to conduct a new study on the impacts of financing strategies on the successfulness completion of road projects in Tanzania.

In donor-funded organizations, the quality and delivery of the final product to the donor can play a crucial role in improving future funding and long term survival of such organizations. Effective service delivery refers to creating work that is of high quality and recognized as efficient (Cole, 2002). The long-term objective of any

organization is to produce high quality projects measured against the traditional measures of time, cost and scope (Basu, 2014). Tools and methods play an important role in project management. However, the factors that directly affect the timely completion of donor-funded projects are rarely discussed as costs and deliverables often take a lead (Shehu and Akintoye, 2009).

According to Frimpon et al., (2003) in their study mentioned that major delay occur during project implementation phase, hence factors such as monthly payment hitches, poor contractor management, material procurement, poor technical performances and escalation of material prices contributed during construction of groundwater projects in developing countries. Once the delay factors are identified, the occasions for improving project performance within the donor sector delivery will be examined. In Kenya, delays of donor-funded projects are rampant especially due to endemic corruption and poor reporting constructions among the public sector (DFID, 2013).

Reiss (1993) suggests that a project is a human activity that achieves a clear objective against a time scale and that project management involves a combination of people management and management of change. Turner (1996) further suggested that project management is about converting vision into reality. Thomsen (2008) noted that it is crucial for the team to work together in an efficient and effective manner within a project in order to realize its critical success factors. These factors require day-to-day attention and operate throughout the life of the project and are limited in the number of areas that, if fully addressed, would ensure the successful completion of the project (Shehu and Akintoye, 2009). It is therefore critical that the

project team leader ensures that members are aware and remain focused on these factors if the project is to be completed in time.

Neale and Neale (1989) illustrated the relationship between project cost and planning input in the timely completion of construction projects. Essentially, the availability of funds targeted at a particular project activity is a measure of project success, especially for activities in the critical chain. In a study to determine how District hospitals in Ghana cope with the untimely release of funds, Asante *et al.*, (2006) noted that this created serious cash flow problems for the district health managers that disrupted the implementation of health activities and demoralized the district health staff. Nevertheless, based on their prior knowledge of when funds were likely to be released, district health managers adopt a range of informal mechanisms to cope with the situation. These mechanisms include obtaining supplies on credit, borrowing cash internally, pre-purchasing constituents, and conserving part of the fourth quarter donor-pooled funds for the first quarter of the next year. Although these informal devices have kept the district health system in Ghana running in the face of persistent delays in funding, some of them are open to abuse and could be a potential source of corruption in the health system.

The untimely release of funds, particularly during the first phase of the project, is a significant barrier to effective project delivery especially where new project staff must be recruited and pre-requisite field supplies purchased to kick-off project activities. The need for timely releases of funds has also been stressed (Foster, 2000).

Fan and Kang (2005) in his study roads contribute to economic growth and poverty reduction argued that road infrastructure impacts on overall economic growth,

agricultural growth, urban growth, urban poverty reduction, and rural poverty reduction. Without infrastructure, efficient markets, adequate health care, a diversified rural economy, and sustainable economic growth will remain elusive. Effective development strategies require good infrastructure as their backbone. Transportation infrastructure is an effective factor of production. Power consumption and health conditions are positively correlated with the availability of road infrastructure. Most of Africa's poor trade performance is the result of weak infrastructure. The availability and quality of road infrastructure also influences food prices. Road investments help the poor through their impact on the rural non-farm economy. An increase in paved roads is positively and significantly related to growth in Gross Domestic Product (GDP) per capita in urban areas.

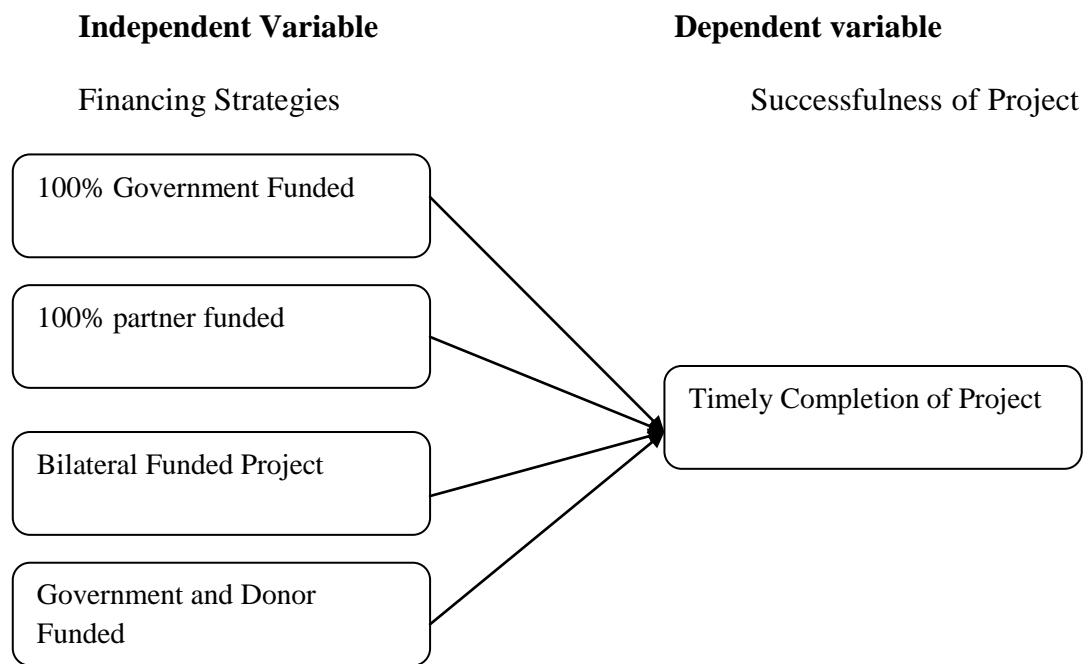
Fan and Kang (2005) continue to argue that the different phases of a highway project have different impacts. The construction period not only creates tremendous work opportunities, but also improves the skill of local people employed on the project. In the post-construction period, highways promote the development of goods production in poor regions, increase the volume of trade, reduce transportation costs, and improve social services. Highway construction also increases farm incomes.

Nadiri and Mamuneas (1998) argue that an increase in the stock of highway capital has an initial direct productivity effect on business: it reduces the total cost of producing a given level of output in almost all industries. Cost reductions permit products to be sold at lower prices and lower prices can be expected to lead to output growth. Road investments have a significant effect on the production sector's demand for labour, capital, and materials.



## 2.4 Conceptual Framework

Mugenda and Mugenda (2003) say a conceptual framework is a graphical or diagrammatic representation of the relationship between independent and dependent variables in a study. It helps the researcher see the proposed relationship between the variables easily and quickly. In this study framework was based on NPV model in which Successfulness of the project was examined. The first part of the conceptual framework examined factors affecting performance of local Contractors as the independent variable. The second part examined performance of local Contractors.



**Figure 2.1: Road Related Projects Financed by other Development Partners in Tanzania**

Source: Researcher (2015)

According to the conceptual framework (Figure 2.1), there are two sides' independent variable and dependent variable. Accordingly the conceptual framework shows independent variable affects the dependents variable. The independent

variable consists of financial strategies of the Roads while the dependent variable consists of successfully of the road.

According to the conceptual framework the financing strategies of the road, which is independent variable, can be of four different forms. Either it the Government can finance the road fully, or the donors partner can finance it fully, or the road can be financed by the government and the partners or sometimes even the bilateral government can finance the road fully. Now this kind of financing are said to have the impacts on the successful of the roads.

On the other side of the conceptual framework there is dependent variable which is the successful of the road; this means the successful of the road is great depend on the financing strategies of that road. According to the conceptual framework the successful of the road can be in terms of timely completion of project.

## **2.5 Research Gap**

Despite the fact that there have been various studies conducted on the impact of financing on the successfulness road project, most of the study were conducted out of Tanzania, the study by Frimpon et al. (2003) showed major delay occur during project implementation phase, hence factors such as monthly payment hitches, poor contractor management, material procurement, poor technical performances and escalation of material prices contributed during construction of groundwater projects in developing countries. Hamzah (2010) in the study Project schedule influenced by financial issues: Evidence in construction industry using Questionnaire survey and a follow up interview survey Construction delays could be reduced by identifying the

root causes of financial related problems. There is no specific research that documents findings on the impact financing on the successfulness road project at three municipals of Dar es Salaam. Therefore, to bridge the gap, the study focused on the impact of financing on the successfulness road project.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Design**

Kothari (2004) defines research design as the conceptual structure within which the research is conducted. It constitutes the blue print of collection, measurement, and analysis of data. In this context, the research design is a structure of the research, which is used to show how all the major parts of the research project work together to try to address the central research question. As such, the design includes an outline of what the researcher did from the beginning to the final analysis of data. In this study the researcher used a case study because a case study is an in-depth study of a particular research problem rather than a sweeping statistical survey. It is often used to narrow down a very broad field of research into one or a few easily researchable examples. The case study research design is also useful for testing whether a specific theory and model actually applies to phenomena in the real world (Kothari, 2004).

#### **3.2 Area of the Study**

The choice of study area has great influence on the end results of any study. There must be a true representative sample of the whole population in the study, that is, the results must be a true representation of whole population. In this study, Dar es Salaam had been chosen as a study area. Dar es Salaam has been chosen because of the reasons of being where headquarters of most of organization are found, including TANROADS headquarter. Second, the selections are based on the researcher's accessibility to the data required. Otherwise only these regions were not chosen for

this study due to limited time and fund, which restrict the researcher to collect data countrywide.

### **3.3 Research Paradigm**

According to Weaver and Olson's (2006) definition of paradigm reveals how research could be affected and guided by a certain paradigm by stating, "paradigms are patterns of beliefs and practices that regulate inquiry within a discipline by providing lenses, frames and processes through which investigation is accomplished".

The research philosophy for this study is pragmatism of the interpretive paradigm in which the facts to evaluate the impact of funding models on completion of the road projects in Tanzania, in order to answer the Research Questions involved in the study questionnaire and interview were used. The data collection and analysis were properly set to address questions raised in the research questions section through provision of grounds for respondents to answer the questionnaire and interview guide correctly. This research covered funding models in order to see how road project are completion on time.

### **3.4 Population of the Study Area**

The target population is a group which the researcher is interested in gaining information and drawing conclusion (Kothari, 2004). Population was Ministry officials, road users, project managers, and TANROADs officials. Project managers were 15, ministry officials were 30, TANROADS were 10, road users were 40, the total population of study was 95.

### **3.5 Sampling Procedures**

The study was carried out in Dar es Salaam city Tanzania at TANROADS headquarter Tanzania. In this case, the study adopted two sampling techniques. The first was simple random sampling and the second one was purposive sampling.

#### **3.5.1 Simple Random Sampling**

According to Kothari (2004), the sample size should neither be excessively large nor too small. It should be optimal. A sample is the one that fulfils the requirements of efficiency, representativeness, reliability and flexibility. 25 ministry infrastructure officials were obtained through simple random sampling as well as 35 road users were obtained through simple random sampling procedure

A simple random sample is meant to be an unbiased representation of a group. The sampling procedures (simple random sampling) for road user and employees from ministry of infrastructure were sufficient. In this context simple random sampling has the advantage of being free from bias and classification error remains one of the biggest advantage. Simple random sampling offers each member from a population an equal chance of being selected. If done right, simple random sampling results in a sample which is highly representative of the population of interest.

#### **3.5.2 Purposive Sampling**

The second sampling technique was purposive sampling. This technique was applied in selecting 10 project managers and 5 TANROAD officials respectively. Purposive sampling was used to obtain the required information from the product officers and managers who had that information according to the knowledge of the researcher.

This information was difficult to obtain from individual respondents who were selected randomly since they needed clarification, experience and personal understanding of the respondents who were selected.

### 3.6 Sample Size

It was not possible to deal with all of the targeted population and therefore one must identify a proportion of the population as a sample. Kitchin and Tate (2007), define a sample as a strategic and purposive category of respondents who provide information for the study. The rationale for sampling was to measure these elements and draw conclusions concerning the population. The target respondents were top management from TANROADS officials, Ministry of Infrastructure employees, road project managers and road users. Distribution of the sample size is shown on the Table 3.1.

**Table 3.1: Summary of the Sample Size**

No	Source of Data	Number of respondents	Number of population
1.	Road projects managers	10	15
2.	TANROADS officials	5	10
3.	Ministry of infrastructure	25	30
4.	Road users	35	40
	<b>Total</b>	<b>75</b>	<b>95</b>

Source: Researcher (2015)

### 3.7 Methods of Data Collection

Data collection is the process of obtaining evidence in a systematic way to ascertain answers to the research problems (Kitchin and Tate 2007). Moreover, Kothari (2004) argues that data collection methods refer to the process of obtaining evidence in a systematic way to ascertain educational and other problems. Multiple sources of

information are necessary in order to obtain information. Both primary and secondary data were collected. Primary data were gathered through interview and questionnaires.

All these methods enabled the researcher to capture useful original data for the study. Primary data collection was used TANROADS officials, Ministry of Infrastructure employees, road project managers and road users. Secondary data were collected to obtain further insight on the topic from such documents as the published and unpublished dissertations, books, reports, newspapers, and journal, articles, teaching and learning resources and other resources retrieved from the Internet. The secondary data were obtained from the TANROADS offices, Ministry of Infrastructure and project managers, which showed number of road project and donors. Such data helped the researcher to make critical analysis on the topic under investigation.

### **3.8 Data Collection Instruments**

Two types of data collection techniques were employed in this study. These included interviews and questionnaires.

#### **3.8.1 Questionnaires**

The designs of questionnaires are largely based upon the research objectives or research question that guide the study. Both structured and unstructured questions were used. Unstructured questions were designed in such way that they allowed respondents to give as much details as they like and also to facilitate the clarification and qualification of their answers as much as was necessary. The questions permitted the respondents to answer freely and fully in their own words and in their own frame



of reference. Structured questions have advantage of being easy to handle and their codification is automatic (Kitchin and Tate 2007). Combination of both structured and unstructured questions was a well- established method of obtaining data, and was believed to increase the reliability of the responses. The questionnaire method was used to 25 Ministry of infrastructure officials and 35 road users.

### **3.8.2 Interviews**

Interviews were used to collect information from some of respondents when seem to be convenience. The researcher used two types of interview, personal interview and telephone interview. Personal Interview was method of data collection which involves presentation of oral - verbal stimuli and reply in terms of oral – verbal responses (Kothari, 2008). This method was used to 10 project managers and 5 TANROAD officials respectively.

## **3.9 Methods of Data Analysis**

Data analysis is the application of a reasoning to understand and interprets the data that have been collected (Zikmund, 2003). In the study data analysis depended on either data are qualitative or quantitative.

### **3.9.1 Qualitative Data Analysis**

Kitchin and Tate (2007), describe data analysis as a process of systematically working with data or applying statistical and logical techniques to describe, organize, summarize, compare the data collected and divide them into small manageable portions. Since the researcher employed different methods of data collection, this means that both qualitative and quantitative analysis techniques were employed.

Researcher followed the procedures such as: identifying statement that related to the topic, and then grouped statement into meaningful units, consideration of similar perspectives and lastly the various meanings recognized was used to assess the impacts of financing strategies on the successfulness completion of road projects in Tanzania.

### **3.9.2 Quantitative Data Analysis**

Babbie, (2004) stated that, It is better to know that quantitative analysis focuses on analyzing numerical data, unlike qualitative analysis deals with meanings, examining the attitudes, feeling and motivations of people. In SPSS the researcher used descriptive analysis method in analyzing the data.

### **3.10 Data Validity and Reliability**

Reliability defined as the extent to which results are consistent overtime (Saunders, Lewis & Thornhill, 2012). Reliability has to do with accuracy and precision of measurement procedures. Validity implies applicability and usefulness of the data obtained through such reliable design and all the way to conclusive findings (Kothari, 2007). Reliability refers to the extent to which data collection techniques or analysis procedures used yield consistent findings and it can be assessed by posing the following three questions.

1. Will the measures yield the same results on other occasions?
2. Will similar observations be reached by other observers?
3. Is there transparency in how sense was made from the raw data

Kothari (2004) states that reliability is the ability of the instrument to measure consistently the phenomenon it is designed to measure and can be tested by finding out the following things as: (a) who collect the data (b) what are the source of data? (c) Whether they are collected by using proper method (d) at what time they are collected (e) is there any bias of the complier? (f) What level of accuracy is desired and is it achieved? (Kothari, 2004).

Therefore, the data collection instrument questionnaires and interview guide was pretested to a few selected Ministry officials, road users, project managers, and TANROADs officials with the aim of testing the reliability and validity of the instruments. Testing the acceptance and efficiency of the data collection instruments before actual data collection (clarity and understanding of the questions in the instruments) is of paramount important for any research work. The comments, views and suggestions from pretesting exercise were used to modify the instrument before actual data collection to the 75 respondents.

Furthermore, the study calculated the Cronbach's Alpha to test the reliability of the data. In this research Cronbach's Alpha test was used to assess the reliability of the scale where a cut-off point of 0.70 was adopted so that the corrections between items of particular scale were improved.

## CHAPTER FOUR

### PRESENTATION AND DISCUSSION OF FINDINGS

#### 4.1 Demographic and Social Characteristics of Respondents

A sample size of 75 respondents was expected to participate in this study, but 70 respondents actually participated. This gives a response rate of 93.3%, which is quite satisfactory and warrants further analysis.

##### 4.1.1 Sex of Respondents

Sex of respondents was sought by the researcher in order to examine the relationship between sex and the road project under taken in Dar es Salaam and impact of financial in the entire road project. The findings revealed that 38(54.3%) of respondents were male and 32(45.7%) of respondents were female (Table 4.1). The results indicate that gender balance is important to the extent that it has been observed that in road contraction ad users not only men participated even women were participating in road project.

**Table 4.1: Distribution of Respondents by Sex**

<b>Gender</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Male	38	54.3
Female	32	45.7
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Study Findings, (2015)

##### 4.1.2 Age of Respondents

The study question was asked to respondents to know the age distributed where by the findings indicates that 36 (51.4%) of the respondents aged between 41-50 followed by 18(25.7%) of the respondents aged between 31-40, 9(12.9%) of

respondents aged above 50 years old and the last group was 7 (10%) of the respondents were aged between 18-30, as shown in Table 4.2.

**Table 4.2: Distribution of Respondents by Age Group**

<b>Age Group</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
18-30	7	10.0
31-40	18	25.7
41-50	36	51.4
50 and above	9	12.9
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Study Findings (2015)

According to this study most of the respondents participated were the adults as 51.4% of respondents were aged between 41-50, this study involves adults respondents who are able to provide the right information required by the researcher mean while most of the population engaged in on road project are adults.

#### **4.1.3 Level of Education of Respondents**

The question was posed to the respondents about the level of education. The findings revealed that 27 (38.6%) of respondents were undergraduate, 18(25.7%) of respondents were secondary school levers, 16(22.9%) of respondents were primary level, 9 (12.9%) of respondents were postgraduate, and only 9 (12.9%) of respondents are holders of postgraduate as illustrated in Table 4.3.

**Table 4.3: Level of Education of Respondents**

<b>Level of Education</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Primary	16	22.9
Secondary	18	25.7
Undergraduate	27	38.6
Post graduate	9	12.9
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Study Findings (2015)

The study contained the respondents who are educated as most of them are graduate followed by secondary school leavers. The study reveals that the level of education possessed by respondents helped to gather information required by the researcher, as respondents understood the needs of questions and responded according to the required information.

#### 4.1.4 Working Experience

The question was asked to TANROAD, Ministry of infrastructure and project manager's respondents on their working. The findings revealed that 11 (31.4%) of respondents had an experience of 1- 5 years, 10 (28.6%) had a working experience of 6-10, 8(22.9%) have experience of 11-15 years and 6(17.1%) of respondents have above 15 years (see Table 4.4).

**Table 4.4: Distribution of Respondents by Working Experience**

<b>Working Experience</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
1-5 years	11	31.4
6-10 years	10	28.6
11-15 years	8	22.9
above 15 years	6	17.1
<b>Total</b>	<b>35</b>	<b>100.0</b>

Source: Study Findings, 2015

The findings from Table 4.4 imply that the majority of respondents had a working experience of between 1-5 followed by 6-10 years. Experience makes a people to understand the road project thoroughly and how the impact of financial in road projects. Most people with experience proved to perform better in this study because the employees understand the project well and the advantages of such form of project.

## 4.2 The Key Sources of Funding of Road Infrastructure

The first objective of this study aimed to find out the key source of funding of road infrastructure. In order to achieve this objective various questions were posed to the respondents and the responses are summarized and discussed hereunder.

### 4.2.1 Understanding about Road Project

The question was posed to respondents if they understand about road project. The findings revealed that, 62(88.6%) of respondents understand about road project and 8(11.4%) of respondents do not understand about road project (See Table 4.5). Findings from Table 4.5 indicate that people understand about road project and its importance to the development of people as 88.6% of respondents indicated.

**Table 4.5: The Understanding about Road Project**

Understanding about Road Project	Frequency (N)	Percent (%)
Yes	62	88.6
No	8	11.4
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Study Findings (2015)

### 4.2.2 Sources to Financing of Road Infrastructure

The respondents were asked on the financing of Road infrastructure. Out of the seventy(70) respondents, 66(94.3%) of respondents were of the view that the main source for financing road infrastructure development in the country should be the government. 4(5.7%) however were of the view that the development of road infrastructure should be the responsibility of the private sector. The result of the analysis is presented in Table 4.6.

**Table 4.6: Sources to Financing of Road Infrastructure**

<b>Sources to Financing</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Government	66	94.3
Private	4	5.7
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Study Findings (2015)

#### **4.2.3 Adequacy of Road Financing**

The question was posed to the Project managers, TANROADS and The Ministry of infrastructure as to whether the financing of road projects in Tanzania was adequate or not. The findings show that 29(82.9%) of respondents said there is inadequate of road project in Tanzania and 6(17.1%) of respondents said adequate. The result is presented in Table 4.7.

**Table 4.7: Adequacy of Road Financing**

<b>Adequacy of Road Financing</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Inadequate	29	82.9
Adequate	6	17.1
<b>Total</b>	<b>35</b>	<b>100.0</b>

Source: Study Findings (2015)

#### **4.2.4 Main Source of Road Infrastructure Development in Tanzania**

The question was posed to the respondents on the main source of road infrastructure development in Tanzania. The findings show that 66(94.3%) of respondents said the Tanzania road funds is the main source of road infrastructure in Tanzania followed by 62(88.6%) of respondents who said donor funds and 56(80%) of respondents said consolidated funds, as shown in Table 4.8.



**Table 4.8: Main Source of Road Infrastructure Development in Tanzania**

Source of Road Infrastructure	Frequency (N)	Percent (%)	Total
Consolidated funds	56	80.0	<b>70</b>
The Tanzania road funds	66	94.3	<b>70</b>
Donor funds	62	88.6	<b>70</b>

Source: Field Data (2015)

#### **4.2.6 Major Causes for the Delays of Most Road Projects in Tanzania**

The question was posed to all respondents on the major causes for the delays of most road projects in Tanzania. The findings show that 28(40%) of respondents said shortage of funds, 21(30%) of respondents said Shortage of teaching materials and extreme weather and inadequate feasibility study. Researcher also tried to assess the main causes for the delays of most roads projects in Tanzania.

**Table 4.9: Major Causes for the Delays of Most Road Projects in Tanzania**

Response	Frequency (N)	Percent (%)
Shortage of Funds	28	40.0
High price of construction	21	30.0
Extreme weather and inadequate feasibility study	21	30.0
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Field Data (2015)

### **4.3 To identify the Funding Models for Financing Road Infrastructure**

#### **Development Projects**

Second objective from the study aimed at identify the funding (finance management and economic analyses) models for financing Road infrastructure development projects. The following questions were asked regarding the above objective.

#### 4.3.1 The Utilization of Funds for the Targeted Project

The question was asked to all respondents if the allocation of funds is being fully utilized to the entire road project. The findings show that 42(60%) of respondents agree that the allocated funds for road project are properly utilized and 28(40%) of respondents said no (as shown in Table 4.10).

**Table 4.10: The Utilization of Funds for the Targeted Project**

<b>Response</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Yes	42	60.0
No	28	40.0
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Field Data (2015)

#### 4.3.2 Public Leaders Ensure that Development Project Reflect Value for Money

The question was asked to the respondents if public leaders ensure that development project reflect value for money.

The finding showed that 34(48.6%) of respondents were strongly disagree that Public leaders ensure that development project reflect value for money, 25(35.7%) of respondents disagree, 5(7.1%) of respondents were agreed, 4(5.7%) of respondents were not sure that Public leaders ensure that development project reflect value for money and 2(2.9%) of respondents were strongly agreed that Public leaders ensure that development project reflect value for money. Table 4.11 gives a summary of respondents on whether each public leader know what is going on in terms of funds allocate to the project.

**Table 4.11: Public Leaders Ensure that Development Project Reflect Value for Money**

<b>Response</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Strongly agree	2	2.9
Agree	5	7.1
Not sure	4	5.7
Disagree	25	35.7
Strongly disagree	34	48.6
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Field Data (2015)

The finding in Table 4.11 indicate that 84.3% of respondents are disagree and strongly disagree that Public leaders ensure that development project reflect value for money as opposed to 10% of respondents that agree and strongly agree that development project reflect value for money, that indicate that most of respondent admit development project do not reflect value for money and this led to poor public services and corruption and maintaining the road as they don't know and feel the amount of money used.

#### **4.3.3 Local Citizens are allowed to Question and be answered on Issues**

##### **Patterning Civilian Project**

The researcher was interested to know if Local citizens are allowed to question and be answered on issues patterning road project. The finding showed that 34(48.6%) of respondents were strongly disagree that Local citizens are allowed to question and be answered on issues patterning road project, 27(36.6%) of respondents disagree, 5(7.1%) of respondents agreed, 3. (4.3%) of respondents were not sure and 1(1.4%) of respondents were strongly agreed. Table 4.12 provides a summary of respondents on whether local citizens are allowed to question and be answered on issues patterning civilian project.

**Table 4.12: Local Citizens are allowed to Question and be answered on Issues Patterning Civilian Project**

<b>Response</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Strongly agree	1	1.4
Agree	5	7.1
Not sure	3	4.3
Disagree	27	38.6
Strongly disagree	34	48.6
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Field Data, (2015)

The findings from Table 4.12 indicate that 87.2% of respondents disagree and strongly disagree that Local citizens are allowed to question and be answered on issues patterning road project as opposed to 8.5% of respondents who agreed. This indicated that most of respondents admitting that there is no possibility of allowing Local citizens to question and be answered on issues patterning civilian project, something which led to unaccountable leaders and corruption because of failure of good governance. As known that the importance of accountability of guides allocated to a certain road project result may be the strengthened democracy, reduced corruption greater government legitimacy and other benefits.

#### **4.4 To Determine the Strategies to Overcome the Challenges Facing Road**

##### **Project Funds**

The third objective from the study aimed at finding the way to overcome the challenges facing financing on the of road projects in Tanzania. The following question was asked as per above objective.

##### **4.4.1 Best Methods for Financing Road Projects**

The question was asked to the respondents on the best methods for financing road project. The finding showed that 41(58.6%) of respondents agree that a combination

of private sector, donor and government is the best method for financing road project, 12(17.1%) of respondents said government, 8(11.4%) of respondents said private sector and 8(11.4%) of respondents said donors only. The result is shown in Table 4.13.

**Table 4.13: Best Methods for Financing Road Projects**

<b>Response</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
Donors	8	11.4
Private sector	9	12.9
Government	12	17.1
Donors, Private sector and Government	41	58.6
<b>Total</b>	<b>70</b>	<b>100.0</b>

Source: Field Data, (2015)

#### **4.4.2 Suggestions for Improvement in Funds to Road Infrastructure**

The respondents were asked to suggestions for Improvement in funds to Road Infrastructure. The findings show that 66(94.3%) of respondents said Supervisory units of the Ministry of infrastructure and its agencies should making sure that the allocated funds are used to the entire project and completion of project on time, 62(88.6%) of respondents said donor funds and 56(80%) of respondents said the provision of road infrastructure should purely the responsibility of the government.

**Table 4.14: Suggestions for Improvement in Funds to Road Infrastructure**

<b>Response</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>	<b>Total</b>
The provision of road infrastructure should purely the responsibility of the government.	56	80.0	70
Supervisory units of the Ministry of infrastructure and its agencies should making sure that the allocated funds are used to the entire project	66	94.3	70
Donor funds	62	88.6	70
Completion of project on time	66	94.3	70

Source: Field Data, (2015)

## **4.5 Discussion of Findings**

### **4.5.1 The Key Sources of Funding of Road Infrastructure**

Findings from Table 4.5 indicate that people understand about road project and its importance to the development of people as 88.6% of respondents indicated. The inclusion of roads projects has been known to provide great social benefits to the poor, e.g. improving rapid and emergency access to hospitals, increasing the attendance of children in schools, etc. Roads have also been known to greatly stimulate agricultural production by providing access to markets, helping also in the transition from pure subsistence to market-oriented production.

However, more recent evaluations have also shown the importance of roads in stimulating and expanding non-farm activities. This has been achieved within the context of area and rural development projects, where the inclusion of road components has helped to accelerate and enhance the production and consumption linkages within the concerned project areas, thus multiplying non-farm activities and employment opportunities for the poor.

The findings from Table 4.8 indicate that 80% of source of funds are from consolidated funds. Consolidated funds are funds from the Treasury's current account with the central bank through which all or almost all of a government's expenditures and receipts pass. Tanzania has made good progress in recent years following the creation of the Road Fund Board and TANROADS. The Roads Fund of Tanzania was established in 1998 to ensure adequate and stable flow of funds for sustainable road maintenance and monitoring its utilisation by implementing agencies. The fund receives funding from various sources such as fuel levies on diesel and petrol, transit

vehicle overloading and other sources to be determined by the government from time to time. It is mandated to use at least 90 per cent of its funds for the maintenance and emergency repairs of classified roads and not more than 10 per cent for administrative costs. One of the interviewees noted that:

*“.....road transport was the dominant mode and accounts for over 80 per cent of passenger traffic and over 95 per cent of freight traffic. The country has a total road network of 87,581 kilometres of which 35,000km are trunk and regional roads being managed by the Tanzania National Roads Agency (Tanroads).....”*

The existence of Performance Agreements between the Road Fund Board and the implementing agencies has improved accountability and local roads now receive significant funds for maintenance. This is supported by one of the employees from TANROADS who noted that:

*“..... funds are still insufficient to maintain the roads particularly due to a large backlog of maintenance works. There is also some uncertainty about the full extent of the network. ....”*

Tanzania's financial management has improved since the Road Fund is an autonomous and quazi-commercial organisation with agencies working under Performance Agreements. The country's decentralisation efforts have also been enhanced by disbursing funds direct to local authorities through an agreed formula. These allocations have been transparent and published in the local press. Annual reports have been produced by the Road Fund regularly although recently these have begun to lag.

Among the development partner's involved in road projects in Tanzania are the Danish International Development Agency (DANIDA), the Japan International

Corporation Agency (JICA), South Korea, the Millennium Challenge Corporation (MCC), the UK Department for International Development (DFID), the African Development Bank (AFDB), World Bank, the Arab Bank for Economic Development in Africa (BADEA), European Union, The United States Agency for International Development (USAID) as well as the Kuwait Fund and the Swedish International Development Corporation (The Guardian 24<sup>th</sup> May, 2015).

The delays in completion of most road projects in Tanzania is one among the major cause for delaying spread of economic development of our country, in an interview with the Guardian newspaper of 24<sup>th</sup> may 2015, the permanent secretary of Ministry of Infrastructure Eng. Musa Iyombe argued that;

*“The delays of completing construction of various projects was largely attributed by several challenges, these challenges are lack of construction area, climate change, high prices of construction materials as well as enough funds to pay wages and supervision of donor funds”*

Due to various unknown reasons it has been proved that most of the donors refused to disburse funds to complete various roads projects. For example the Ndundu – Somanga road stretching 60km was delayed after development partners, the Kuwait fund and OPEC fund had temporarily stop financing the projects which made the government to carry the burden.

Professor Msambichaka in his speech presentation in 2011 for private sector commemoration of 50 years of I independence (Infrastructure development and investment) stated that;



*“.....trunk and regional road network improved significantly from 65% (in good and fair condition) in 2001 to 82% in 2005 a further to 96% in 2009.....”*

The study is supported by Alinaitwe, Apolot and Tindiwensi (2013) carried out a study on causes of delays and cost overruns in Uganda's public sector construction projects and the results showed the major causes as: Change of work scope and/or changes in material specifications; High inflation, insurance and interest rates; Poor monitoring and control, due to incompetent and/or unreliable supervisors; Delayed payment to contractors, subcontractors and/or suppliers; and Fuel shortages. Memon (2014) conducted a study on contractor perspective on time overrun factors in Malaysian construction projects and the major factors causing delays were: Frequent design changes; Change in the scope of the project; Financial difficulties of owner; Delays in decisions making; and Unforeseen ground conditions. In India, Desai and Bhatt (2013) studied the critical causes of delay in residential construction projects and found out that the most important delay factors were: Original contract duration was too short; Legal disputes between various parties; Ineffective delay penalties; Delay in progress payments by owner; and Delay to furnish and deliver the site to the contractor by the owner.

#### **4.5.2 The Funding Models for Road Infrastructure**

The finding from Table 4.11 indicate that 84.3% of respondents are disagree and strongly disagree that Public leaders ensure that development project reflect value for money as opposed to 10% of respondents that agree and strongly agree that development project reflect value for money, that indicate that most of respondent admit development project do not reflect value for money and this led to poor public

services and corruption and maintaining the road as they don't know and feel the amount of money used.

The findings from Table 4.12 indicate that 87.2% of respondents disagree and strongly disagree that Local citizens are allowed to question and be answered on issues patterning road project as opposed to 8.5% of respondents who agreed. This indicated that most of respondents admitting that there is no possibility of allowing Local citizens to question and be answered on issues patterning civilian project, something which led to unaccountable leaders and corruption because of failure of good governance. As known that the importance of accountability of funds allocated to a certain road project result may be the strengthened democracy, reduced corruption greater government legitimacy and other benefits.

#### **4.5.3 Strategies to Overcome Road Infrastructure Challenges**

The finding from Table 4.13 show that the combination of private sector, donors and government contribute to the good success of the road project. One of the most important challenges facing road planners in Africa is how to mobilize sufficient funds to build, improve, and maintain a network of high capacity freeways to serve the needs of the region's rapidly growing road transport industry. Given the acute shortage of government revenue, many governments are increasingly turning to the private sector for assistance.

In looking for other sources of finance the government may consider the possibility of inviting the private sector to partner the government in road infrastructure development. Infrastructure is purely the responsibility of the government. There is

therefore no need to involve the private sector in this area at all. One respondent suggested further that the government should rather look for more avenues to generate more income to be able to undertake this important responsibility.

It is showed that 94.3% of respondents suggested that the Supervisory units of the Ministry of infrastructure and its agencies should be strengthened to ensure that road contractors perform to specifications. Completion of project should be on time without delay as there is a big inflation of money.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary of Findings**

The study aimed at assessing impact of the financing on the successfulness of road projects in Tanzania. In this study the researcher adopted the following specific objectives; to describe the key sources of funding of water infrastructure, to identify the funding (finance management and economic analyses) models for financing road infrastructure development projects, to determine actions that has to be taken to overcome the challenges facing road project funds. Also it would help other scholars who want to conduct research to assessing the impact of customer care, to fill any gap which would be left over.

The researcher reviews various sources of information written and presented by different scholars about the financing road project. Review of related literature such as in textbooks, journals, and internet sources have been done. All these sources provided necessary background to the study, after that researcher was provided the research gap.

The Research methodology concerned about data collection where the researcher used a case study where by a case study is an in-depth study of a particular research problem rather than a sweeping statistical survey. It is often used to narrow down a very broad field of research into one or a few easily researchable examples. The study included 70 respondents whereas, sampling techniques and methods of data collection (Primary data and secondary data) tables were drawn by using special

program known as SPSS. The researcher presented analyses and discussed the findings of the study. This chapter segmented into four objectives based to the study.

## **5.2 Conclusion**

The conclusion is made from the research question from the study titled an assessment on the impact of financing strategies on the successfulness of road projects in Tanzania. People understand about road project and its importance to the development of people, the inclusion of roads projects has been known to provide great social benefits to the poor, e.g. improving rapid and emergency access to hospitals, increasing the attendance of children in schools. Source of funds are from consolidated funds, donors and private sectors. Consolidated funds are funds from the treasury's current account with the central bank through with all or almost all of a government's expenditures and receipts pass. Tanzania has made good progress in recent years following the creation of the Road Fund Board and TANROADS.

Tanzania's financial management has improved since the Road Fund is an autonomous and quazi-commercial organisation with agencies working under Performance Agreements. The country's decentralisation efforts have also been enhanced by disbursing funds direct to local authorities through an agreed formula. These allocations have been transparent and published in the local press. Annual reports have been produced by the Road Fund regularly although recently these have begun to lag. The delays in completion of most road projects in Tanzania is one among the major cause for delaying spread of economic development of our country. Some respondents admit development project do not reflect value for money and this

led to poor public services, corruption, and failure to maintain the roads as they don't know and feel the amount of money used.

### **5.3 Recommendations**

It is recommended that the government should allocate enough funds for the completion of various roads construction projects, which are suspended due to various reasons. This would help to boost production activities which are highly depended on tarmac roads for easier transportation of raw materials and various goods.

Governments should therefore give it the needed attention. Although over the last few years, the road sector has seen appreciable annual budgetary increases, the funding is inadequate. The Government should therefore look for other sources to increase its revenue base. When government revenue increases, there would be more revenue available to finance government expenditure including road infrastructure funding. One method that can be adopted is to expand the tax net to include more people who currently do not pay the requisite tax. Expansion of the tax net may not necessarily lead to increases in government revenue if revenue leakages in the public sector are not minimized. This, the government can do by ensuring that those who engage in such practices are given punishments that are severe enough to deter others from engaging in similar practices.

The evaluation of road infrastructure investments should not be based solely on economic benefits to be derived from the construction of a particular road. Such evaluations should be based on social cost benefit analysis. If evaluation of road

infrastructure projects is based only on economic benefits, there is the likelihood that some areas in the country may never benefit from any form of road infrastructure developments. This is because the contribution of such areas to the economy of the country may not be significant to warrant the construction of any roads to those areas.

It is also recommended that the government to enact strictly laws on handling road construction projects. This would enable efficiency in carrying out various roads project activities.

#### **5.4 Suggestions for Further Study**

Further studies shall be conducted in the areas of infrastructure management particularly in road projects management with the intention of assessing if these roads projects bring about socio – economic change within the country.

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## APPENDICES

### Appendix 1: Study Questionnaire

Dear respondent, I am a master student at The Open University of Tanzania undertaking an academic study on the Impact of funding models on Completion of Road Projects in Tanzania. Your responses will be treated confidential and used for only academic purpose.

#### Respondent profile

1. Name of the respondent .....

2. Age ( tick the most appropriate answer)

18 – 30	31 – 40	41 – 50	50 and above
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Sex

Male	Female
<input type="checkbox"/>	<input type="checkbox"/>

4 Highest level of Education or academic Qualification

Primary	secondary	undergraduate	Post graduate
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Which one among the following is the organization you're working with

Source of Data	Mark
Road projects managers	
TANROADS officials	
Ministry of infrastructure	
Roads users	
Suppliers	

6 . What do you understand about road project and its importance to the community development

.....

.....

7. Who is suppose to finance road project in Tanzania

- (i) Government (     )
- (ii) Private sector (     )

8. Is the budget allocated to road funds adequate

- (a) Inadequate
- (b) Adequate

9 Which one among the following is the main source of road infrastructure development in Tanzania (tick one)

No.	Source	Mark
1.	The consolidated fund	
2.	The Tanzania road fund	
3.	Donor fund	

11. Which one among the followings are the main source of funding for the roads

No.	Source	Mark
1.	Fuel levies	
2.	Transit charges	
3.	Overloading fees	
4.	Heavy vehicle license fees	
5.	Bridge and ferry tolls	
6.	International transit fees	
7.	Road use fee	
8.	Vehicle registration fees	

11. What are the main causes for the delays of most roads projects in Tanzania

1.	Inadequate feasibility study	
2.	Error and omission in detail design	
3.	Shortcoming in contract documents	
4.	Stakeholders identification and management issues	
5.	Variation and scope changes	
6.	Land acquisition and resettlement	
7.	Extreme weather	

12. Is the budget allocated to the project being utilized to the intended project

(a) Yes ( )

(b) No ( )

13. Public leaders know the development of project reflect value for money

(a) Strongly agree ( )

(b) Agree ( )

(c) Not sure ( )

(d) Disagree ( )

(e) Strongly disagree ( )

14. Local citizens are allowed to question and be answered on issues patterning

Road project

- a) Strongly agree ( )
- b) Agree ( )
- c) Not sure ( )
- d) Disagree ( )
- e) Strongly disagree ( )

15. What is the best method for financing road projects

- a) Private sector ( )
- b) Donors ( )
- c) Government ( )
- d) Both Government, donors, private sector ( )

16. What do you suggestions for improvement in funds to Road Infrastructure

.....

.....

.....



**Appendix 2: Interview Guide**

1. Who is supposed to finance road project in Tanzania?
2. Is the budget allocated to road funds adequate?
3. Is the main source of road infrastructure development in Tanzania?
4. What are the main causes for the delays of most roads projects in Tanzania?
5. Is the budget allocated to the project being utilized to the intended project?
6. Public leaders know the development of project reflect value for money?
7. What is the best method for financing road projects?
8. What do you suggestions for improvement in funds to Road Infrastructure?

### Appendix 3: Road Related Projects Financed by other Development Partners in Tanzania

NO.	PROJECT NAME	LENGTH (KM)	SIGNING DATE	FINISH DATE	CONTRACT SUM (TSH BIO)	CONTRACTOR	CONSULTANT	REGION	FINANCER	PROGRESS AS OF SEPTEMBER 2013 (%)
	ARUSHA - NAMANGA (One Stop Border Post)		16/12/2011	16/12/2012	15.800	China Geo-Eng.	J. Burrow		ADB/GOT/JICA	69
2	ARUSHA - MINJINGU	98.00	05/12/2011	11/12/2013	75.511	SOGEA-SATOM	LEA International	ARUSHA	IDA	55
3	BAGAMOYO - MSATA	64.00	11/08/2010	14/09/2012	89.608	Estim	HP Gauff	COAST	GoT	91
4	NDUNDU - SOMANGA	60.00	30/06/2008	15/01/2011	58.813	MA Kharafi	ESG (KSCC)	COAST	GoT	89
5	MAFIA AIRPORT ACCESS ROAD	14.30	03/01/2013	02/08/2014	13.500	CHICO	UWP	COAST	GoT	8.00
6	CHALINZE - BYPASS (10KM)	10.0	22/10/2012	23/12/2013	6.450	China Railway No. 3 Engineering Group	Crown-TECH		GOT	50
7	DODOMA-MAYAMAYA	43.65	28/06/2010	09/10/2013	40.610	Sinohydro	CES	DODOMA	GoT	69
8	RUFU ESCARP - DODOMA LOT 3	70.9	13/01/2011	14/06/2013	64.327	CCCC	LEA	DODOMA	ADB/JICA/GOT	77
9	KAWAWA R/ABOUT - MSIMBAZI VALLEY - TWIGA JUNCT	2.70	15/06/2009	20/10/2010	7.639	HARI SINGH	NORPLAN	DSM	GoT	72
10	WIDENING OF BAGAMOYO ROAD WORKS (KIMARA - KIVUKONI)	17.2	16/12/2010	31/05/2013	88.000	KONOIKE	Ingerosec	DSM	JAPAN/GoT	80
11		20.9			240.879		SMEC	DSM	IDA	52
12	PACKAGE 2: UBUNGO TERMINAL, FEEDER STATION AND UP-COUNTRY BUS STATION		09/08/2010		14.674	BCEG	SMEC	DSM	IDA	0
13	PACKAGE 3: JANGWANI DEPOT		24/12/2010		12.800	ChinaCivil Eng	SMEC	DSM	IDA	52
14	PACKAGE 4: KIVUKONI TERMINAL AND FEEDER STATION		21/06/2010	3/8/2011	5.011	BCEG	SMEC	DSM	IDA	95
15	PACKAGE 5: KARIAKOO TERMINAL AND FEEDER STATIONS		09/08/2010		6.348	BCEG	SMEC	DSM	IDA	0
16	PACKAGE 6: FEEDER STATIONS		21/06/2010	3/8/2011	4.413	BCEG	SMEC	DSM	IDA	45
17	MWENGE - MOROCCO								JICA	RELOCATION OF PUBLIC UTILITIES IN PROGRESS
18	BENDERA TATU - KAMATA - GEREZANI								JICA	COMPENSATION OF PROPERTIES AND RELOCATION OF PUBLIC UTILITIES IN PROGRESS
19	TAZARA FLYOVER								JICA	WORKS CONTRACTOR UNDER PROCUREMENT
20	UYOVU - BWANGA	45.00	22/10/2012	22/8/2014	43.356	Sinohydro	NIMETA Consult	GEITA	GoT	6
21	BWANGA - BIHARAMULO	67.00	22/10/2012	27/2/2015	53.756	Sinohydro	Under Procurement	GEITA	GoT	3
22	IRINGA - MIGORI LOT 1	95.1	13/01/2011	14/02/2014	84.216	SIETCO		IRINGA	ADB/JICA/GOT	71
23	MIGORI - FUFU ESCARP LOT 2	93.8	13/01/2011	15/02/2014	73.612	SIETCO		IRINGA	ADB/JICA/GOT	66
24	KYAKA - BUGENE	59.10	30/7/2010	14/03/2013	64.960	CHICO	In-house	KAGERA	GoT	40
25	RUSUMO BRIDGE AND OSBP	0.08	02/03/2012	15/11/2014	29.000	DAIHO Corp	CHODAI Corp	KAGERA	JICA	62
26	SITALIKE - MPANDA	36.90	22/10/2012	06/10/2014	37.097	China Railways Seventh Group	In-house	KATAVI	GoT	12
27	MKUMBARA - SAME	96.00	26/01/2012	03/08/2014	65.129	Dot Services	Nicholas O'Dwyer	KILIMANJARO	IDA	25
28	KIA - MERERANI (26KM)	26.0	27/03/2013	14/08/2014	21.965	STRADA INTERNATIONAL	LEA International		GOT	Mobilization
29	NYANGUGE - MUSOMA ( MWANZA/MARA BORDER - MUSOMA SECTION)	85.50	30/07/2010	14/12/2012	85.368	CHICO	CES	MARA	GOT	79